Moataz Ibrahim

Mechanical Engineer

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LinkedIn • Plymouth, Nova Scotia, Canada
Willing to Relocate
Nationality: Canada • Married

Accomplished and results-driven professional with proven track record in delivering high-quality engineering solutions in fast-paced environments. Well-versed in designing, analysing, and improving mechanical systems with strong focus on sustainability. Skilled in troubleshooting, process optimisation, and product development, whilst ensuring cost-effectiveness and compliance with industry standards. Adept at leading cross-functional teams, mentoring, and managing multiple projects with emphasis on meeting deadlines. Instrumental in streamlining workflows, improving product performance, and implementing sustainable practices in alignment with corporate goals and regulatory requirements.

Areas of Expertise

- Mechanical Design
- Leadership & Mentoring
- Technical Drawing Creation
- Material Recycling Solutions
- Cross-functional Collaboration
- CAD Modeling
- Sheet Metal Design
- Project Management
- Product Development
- Manufacturing Support
- Quality Control & Assurance
- Mechanical Testing & Validation
- Assembly Animations & Renderings
- Problem-solving & Troubleshooting
- Laser Marking & Machine Execution

Professional Experience

Michelin North America, Granton, Canada **2024 – Present**
Mechanical Design Engineer

Collaborated as embedded contractor with Site Engineering America (SEA) team at Michelin North America's CA1 facility, serving as internal consultant for mechanical design solutions. Design parts and assemblies tailored to address manufacturing plant challenges and optimise operational efficiency. Develop innovative designs for critical structural and ergonomic solutions, including lifting beams for heavy moulds, staircase with safety gate for enhanced machine access, ergonomic assist grabber for managing rubber strips, and floor structures to support new factory machinery installations.

- Developed innovative prototyping solutions and shortened lead times by designing and testing material gripper using additive manufacturing techniques.
- Ensured optimal performance and durability in high-stress industrial environment by designing robust floor structure to integrate new moulding injection press.
- Designed pneumatic safety interlocks and incorporated pneumatic control systems to enhance operator safety and reliability.
- Leading the introduction and onsite installation of a new modular workstation (~1,000+ parts), managing detailed drawings, vendor quotes, and iterative design modifications to add robotic integration—project scoped in the high-six-figure to low-seven-figure range.
- Pioneered a qualification-bar measurement system for product-width monitoring, standardizing it across four stations and on track for broader factory rollouts.

Clear Path Engineering, Plymouth, Canada **2025 – Present**
Founder & Lead Mechanical Engineer

Founded and operate a client-focused mechanical design consultancy, delivering tailored engineering solutions to startups and small businesses through end-to-end product development, prototyping, and manufacturing support.

- Launched a sole-proprietorship providing end-to-end mechanical design, prototyping, and manufacturing consulting for startups and SMEs—services showcased at clearpathengineering.ca.
- Delivered full project scope, including clarity calls, CAD concept development, DFM analysis, static analysis simulation, high-quality 3D renderings, 3D-printed prototypes, and supplier-ready technical drawings.
- Developed an AI-based GPT tool to guide clients through the idea-to-shelf process, streamlining decision-making and reducing redesign cycles.
- Utilized advanced tools including Dassault 3DEXPERIENCE, SolidWorks (Visualize & Simulation), HubSpot CRM, Squarespace, alongside various AI productivity tools as a one-person operation.
- Solely responsible for business development, client acquisition, technical delivery, and entrepreneurship.

Outdoor Fit Exercise Systems, Dartmouth, Canada **2023 – 2024**
Mechanical Engineer

Developed durable, tamper-proof, and weather-resistant outdoor recumbent bike with adjustable resistance levels. Conceptualised and introduced comprehensive calisthenic product line tailored to outdoor fitness enthusiasts. Established standardised user manual template to streamline communication and ensure consistency across departments.

- Increased equipment versatility and modularity by engineering universal clamps for calisthenic products.
- Improved production efficiency and quality control by commissioning and utilising laser marking machines for in-house labelling of machine ID plates.

Protocase, Sydney, Canada **2018 – 2022**
Project Specialist (2019 – 2022)

Applied 5S methodology in welding room to organise equipment inventory and standardise welding tools and machinery. Developed hyperlinked flow diagrams to support operator training on new equipment and services. Streamlined onboarding process by delivering training sessions to new operators on equipment operation.

- Generated new revenue stream by commissioning laser marking machine.
- Enhanced productivity by leading teams in execution of projects, including commissioning new machinery and implementing station improvements.

Mechanical Engineering Technologist (2018 – 2019)

Managed customer files and addressed design discrepancies to ensure manufacturability within company capabilities. Developed detailed work instructions for sheet metal parts and assemblies with focus on adhering to established design process protocols. Crafted comprehensive manufacturing procedures for single parts and assemblies to assure consistency with design standards.

- Achieved cost-effective production and enhanced customer satisfaction through design optimisation consultations.
- Increased operational efficiency and simplified use for operators by improving bending operations through creation of CADMAN-B programmed sequences for LVD press brakes.

Neocon Inc, Darmouth, Canada **2017**
R&D Engineering Student

Created injection mould tool packages, conducted competitor product testing, and established design procedures for various vehicle programme tooling. Introduced new tooling packages on injection moulding machine and carried out initial product trials to ensure optimal performance. Developed and applied in-vehicle testing methods to evaluate Neocon products against competitor offerings.

- Boosted brand visibility through design of several tooling packages for injection-moulded vehicle cargo tray logos.
- Improved design consistency and operational efficiency by developing comprehensive set of design instructions for injection mould logo tooling.

Neocon, Dartmouth, Canada **2015**
R&D Engineering Student

Designed and modelled complex Injection Moulding Machine assembly with over 50 components, whilst conducting material testing and creating new material testing devices. Conducted laboratory experiments to evaluate Neocon TPR

sheet samples for Honda's critical testing requirements, and prepared detailed lab reports for submission. Established efficient File Management Hierarchy for managing large assembly projects.

- Engineered pneumatic linear abrasion testing machine for evaluating durability of carpeted TPR samples.
- Successfully developed and organised over 50 parts for Injection Moulding Machine design in CATIA V5 to ensure efficient model assembly.

Education

Bachelor of Engineering in Mechanical Engineering | Dalhousie University, Nova Scotia, Canada, 2013 – 2018

Certifications & License

Professional Engineer (P.Eng) | Engineers Nova Scotia, Canada, 2022
SolidWorks Certifications
Driving License | Issued in Canada

Language Proficiencies

English: Native | Arabic: Basic